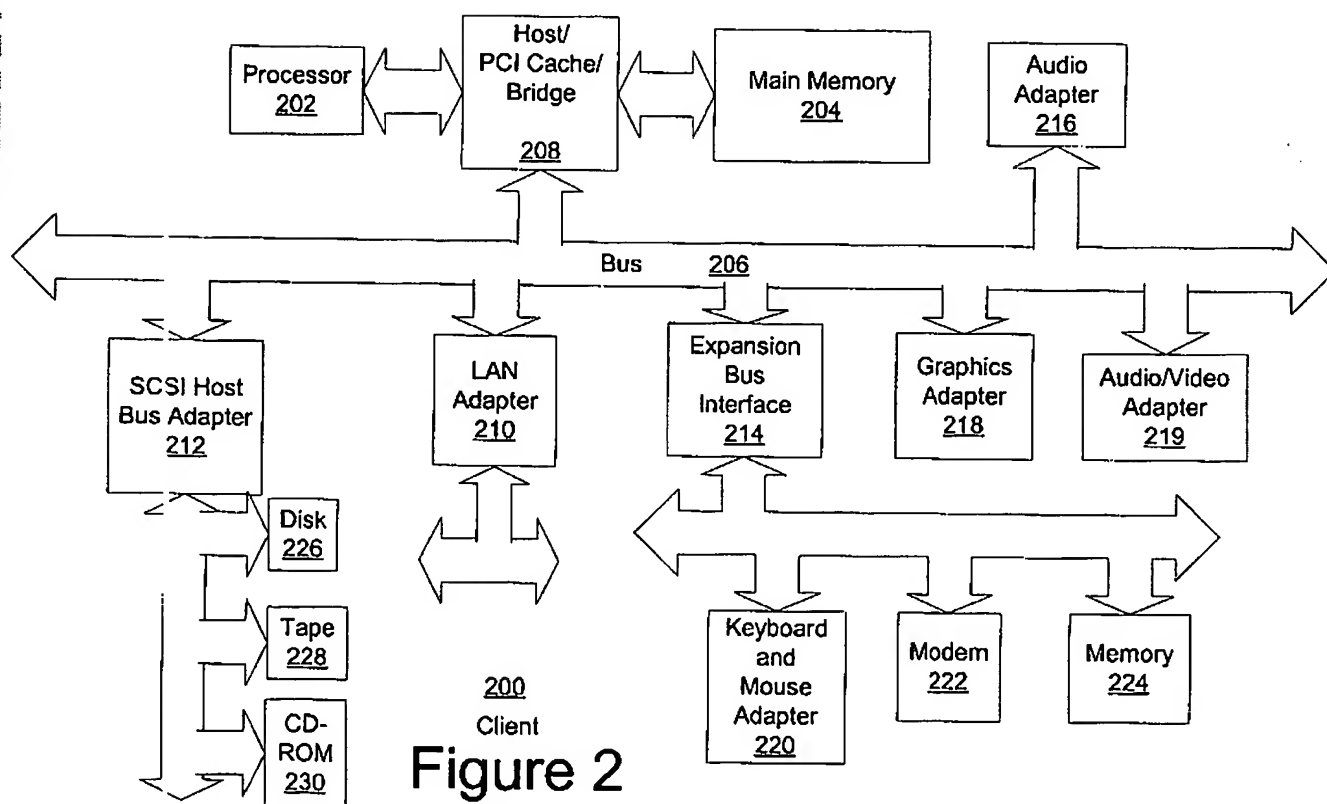
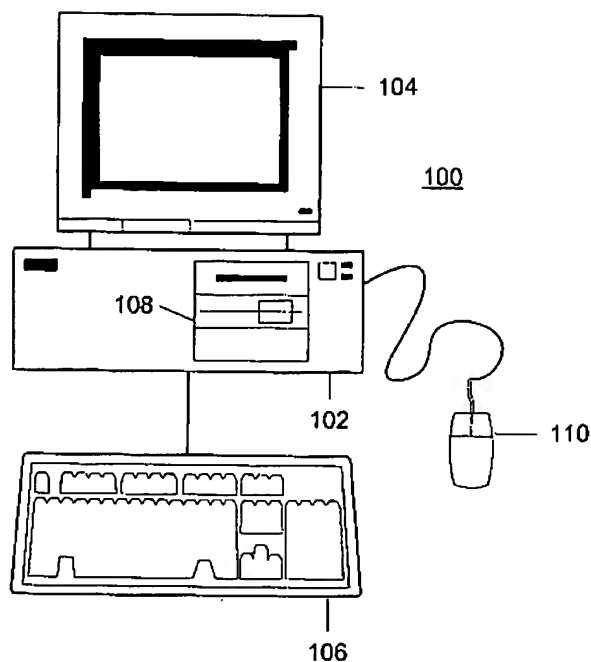
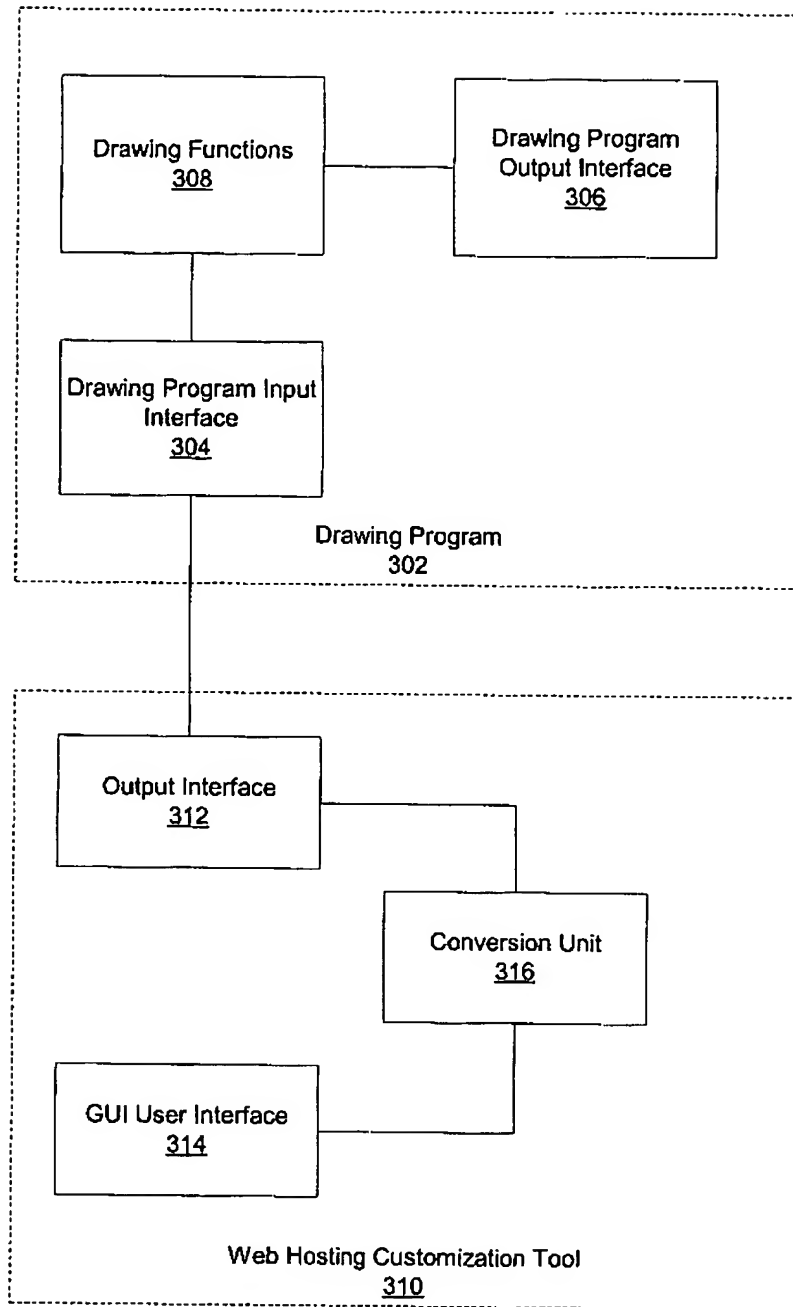


# Figure 1

Longnecker et al.  
AUS920010641US1  
Universal Server Farm Mass Custom  
Design Tool  
Page 1 of 21



# Figure 2



**Figure 3**

Illustration of Typical Visio User Interface with Manually-Edited Drawing In Progress

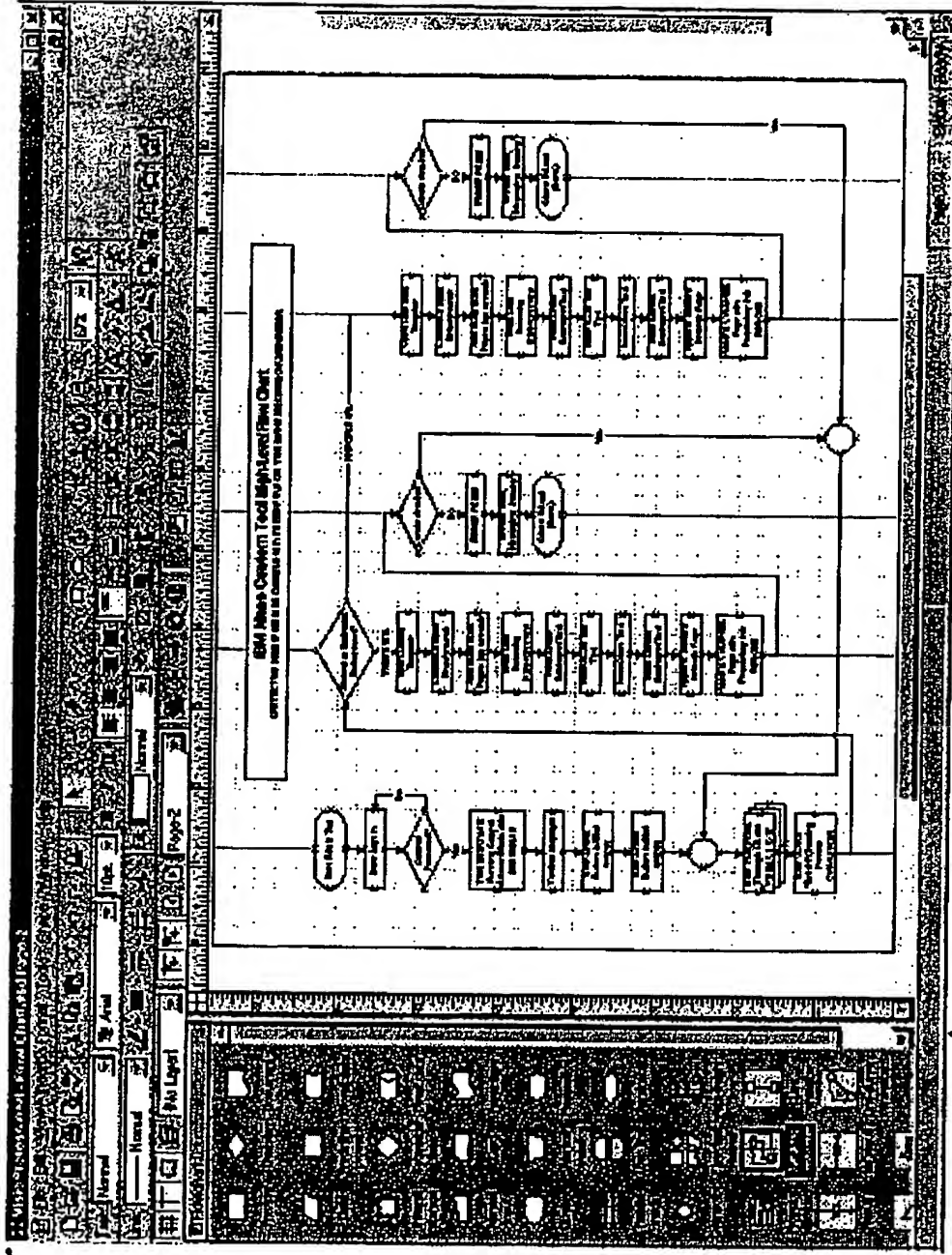
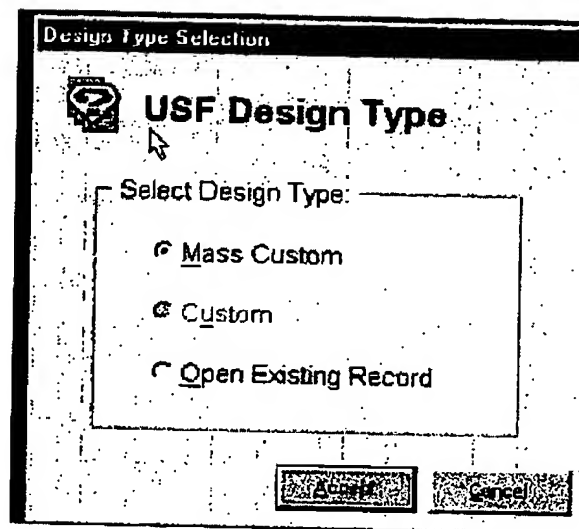


Figure 4  
Longnecker et al.  
AKS920010641US1  
Universal Server Farm Mass  
Custom Design Tool  
Page 3 of 21

10004948-12504



500

BEST AVAILABLE COPY

## Figure 5A

Longnecker et al.  
AUS920010641US1  
Universal Server Farm Mass Custom  
Design Tool  
Page 4 of 21

10504948 "B-H-0001"

BEST AVAILABLE COPY

IBM DSF Solution Design Tool Version: 0.9

## Customer Information

Step 2 of 12

Customer Name			
Address			
City		State	
Customer Contact 1		Phone	
Customer Contact 2		Phone	
IBM Business Partner Name	Kurt Longnecker		IBM Business Partner

Navigation buttons: Back, Forward, Cancel, OK, Help, Previous, Next, First, Last, Home, Exit

502

Figure 5B

Longnecker et al.  
AUS920010641US1  
Universal Server Farm Mass Custom  
Design Tool  
Page 5 of 21

IBM UDF Solution Design Tool Version: 0.9

# Geographic Load Balancing

## Step 3 of 12

Simple Web Application

One Location (Default)

Single Location

Enter the location(s) for the application:  
(Default: 1-2 locations)

The default is to load test the application on a single server. If you want to load test on multiple servers, use a list.

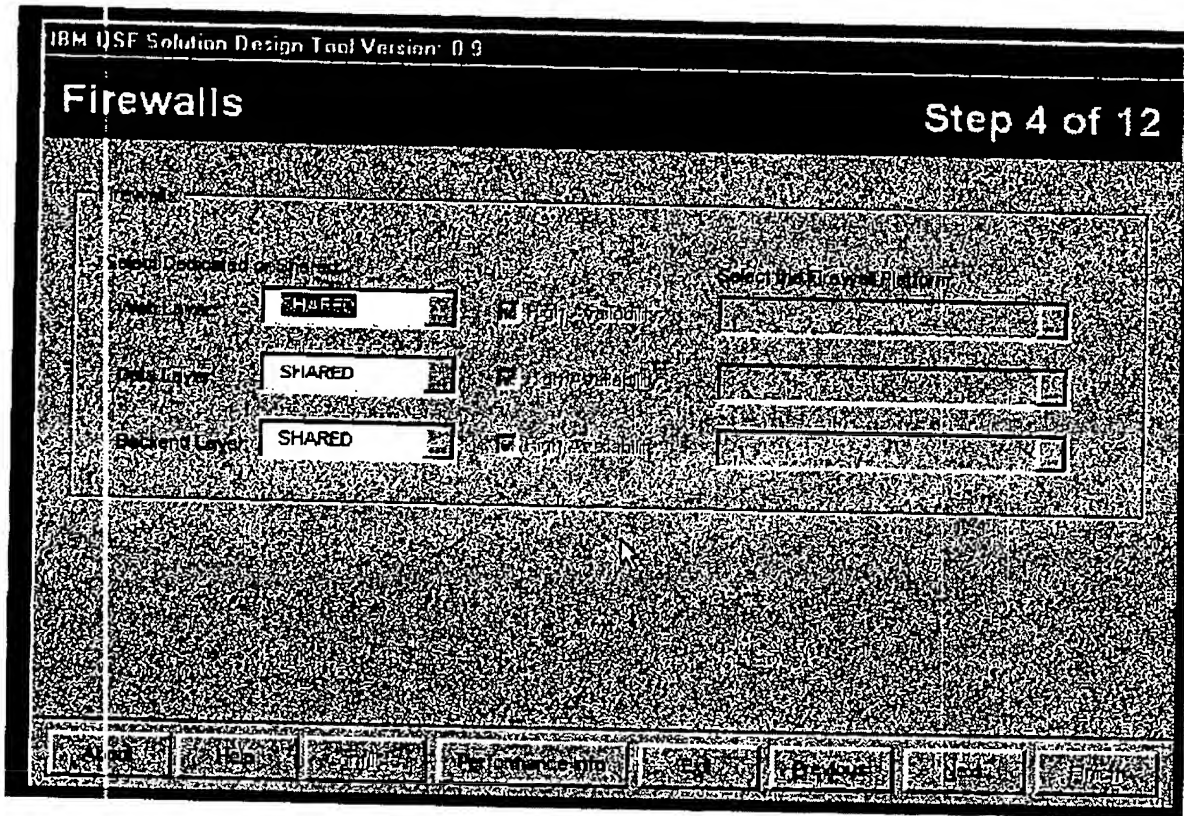
Back Next Cancel Performance Exit Print Help About

**BEST AVAILABLE COPY**

504

### Figure 5C

Longnecker et al.  
AUS920010641US1  
Universal Server Farm Mass Custom  
Design Tool  
Page 6 of 21



506

Figure 5D

Longnecker et al.  
 AUS920010641US1  
 Universal Server Farm Mass Custom  
 Design Tool  
 Page 7 of 21

IBM QSE Solution Design Tool Version: 0.9

## Connectivity

Step 5 of 12

Selected Environment:

Selected Network:

Selected Connection:

Selected Speed:

Selected Note:

T3

None

10BaseT

10BaseT

Select the Network Options:

Two Routers 500 Celeron SRP/11 Max. each - 512Kb/s

Internet Connectivity:

10BaseT connection speed is satisfactory for external connections up to 5 T1's worth of bandwidth.

[ scroll down ]

508

Figure 5E

Longnecker et al.  
 AUS920010641US1  
 Universal Server Farm Mass Custom  
 Design Tool  
 Page 8 of 21



Longnecker et al.  
AUS920010641US1  
Universal Server Farm Mass Custom  
Design Tool  
Page 9 of 21



Figure 5G

Longnecker et al.  
AUS920010641US1  
Universal Server Farm Mass Custom  
Design Tool  
Page 10 of 21

10004948 "120501

DEPT. OF AGRICULTURE

IBM USF Solution Design Tool Version: 0.9

## Database Servers

Step 8 of 12

Server Name:  Server ID:  Select Software Required:

☐ IBM Universal Data Base  
☐ to be specified

Server Description:

Server Location:

Server Type:

Server Status:

Server Owner:

Server Contact:

Server Notes:

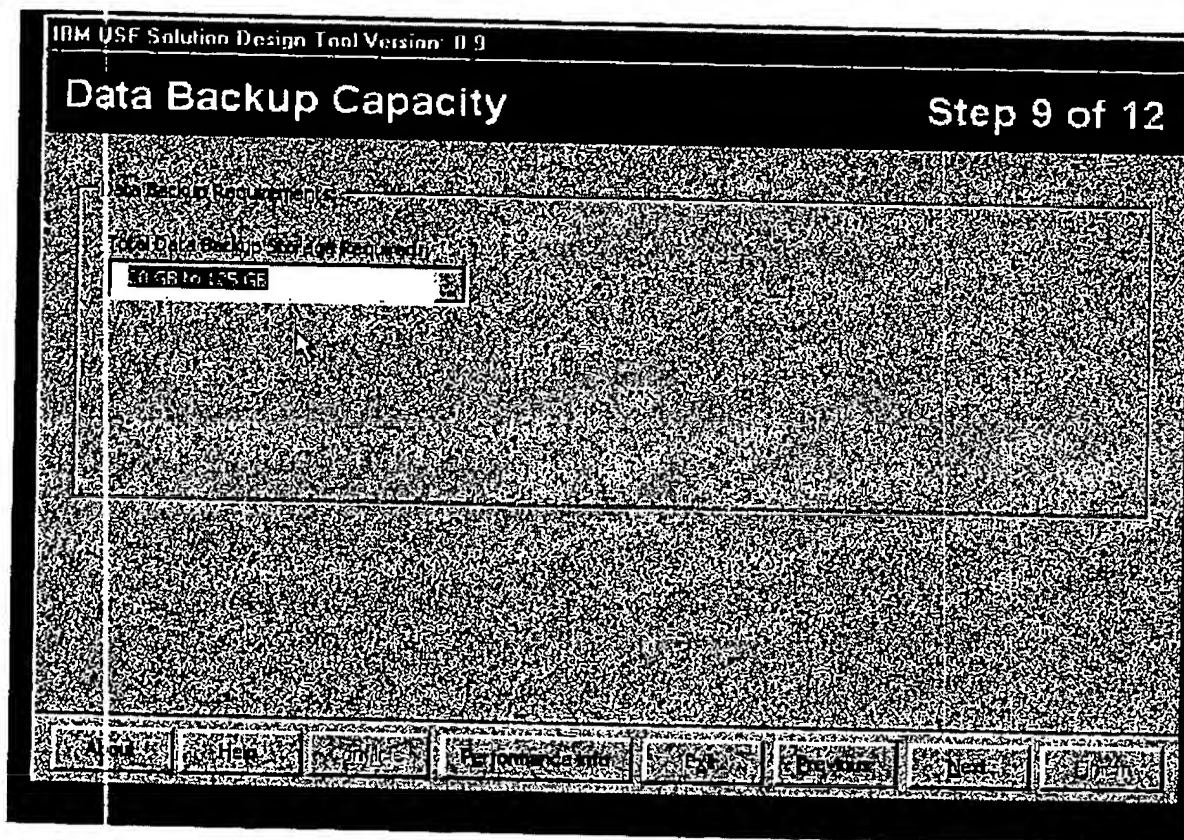
Server Actions:

514

Figure 5H

Longnecker et al.  
AUS920010641US1  
Universal Server Farm Mass Custom  
Design Tool  
Page 11 of 21

10004948 120501



BEST AVAILABLE COPY

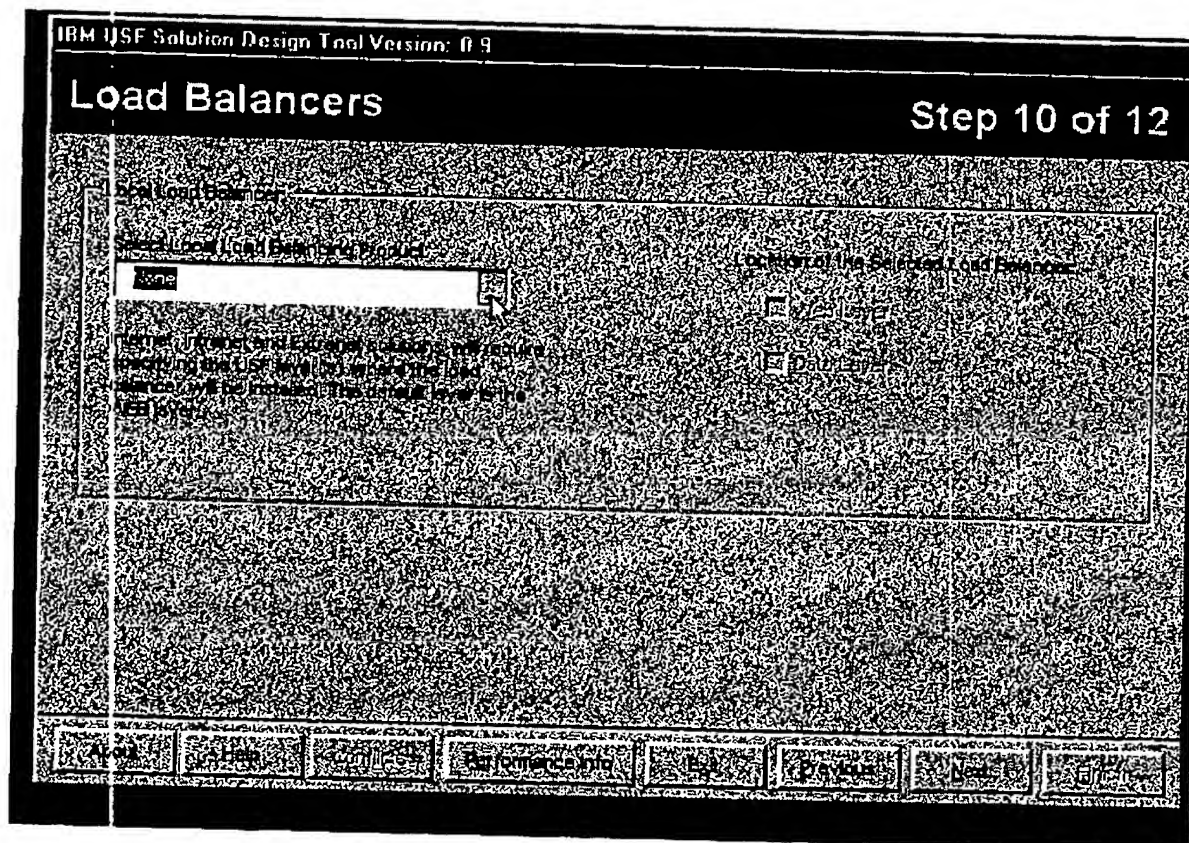
516

## Figure 51

Longnecker et al.  
AUS920010641US1  
Universal Server Farm Mass Custom  
Design Tool  
Page 12 of 21

1050221 84640001

BEST AVAILABLE COPY



518

Figure 5J

Longnecker et al.  
AUS920010641US1  
Universal Server Farm Mass Custom  
Design Tool  
Page 13 of 21



10004948 " 120501

BEST AVAILABLE COPY

IRM USE Solution Design Tool Version: 0.9

# Environment

Step 11 of 12

**Shared Environment**

Select an Appropriate Shared Environment Template

[List of templates]

**Dedicated Environment**

Select an Appropriate Dedicated Environment Template

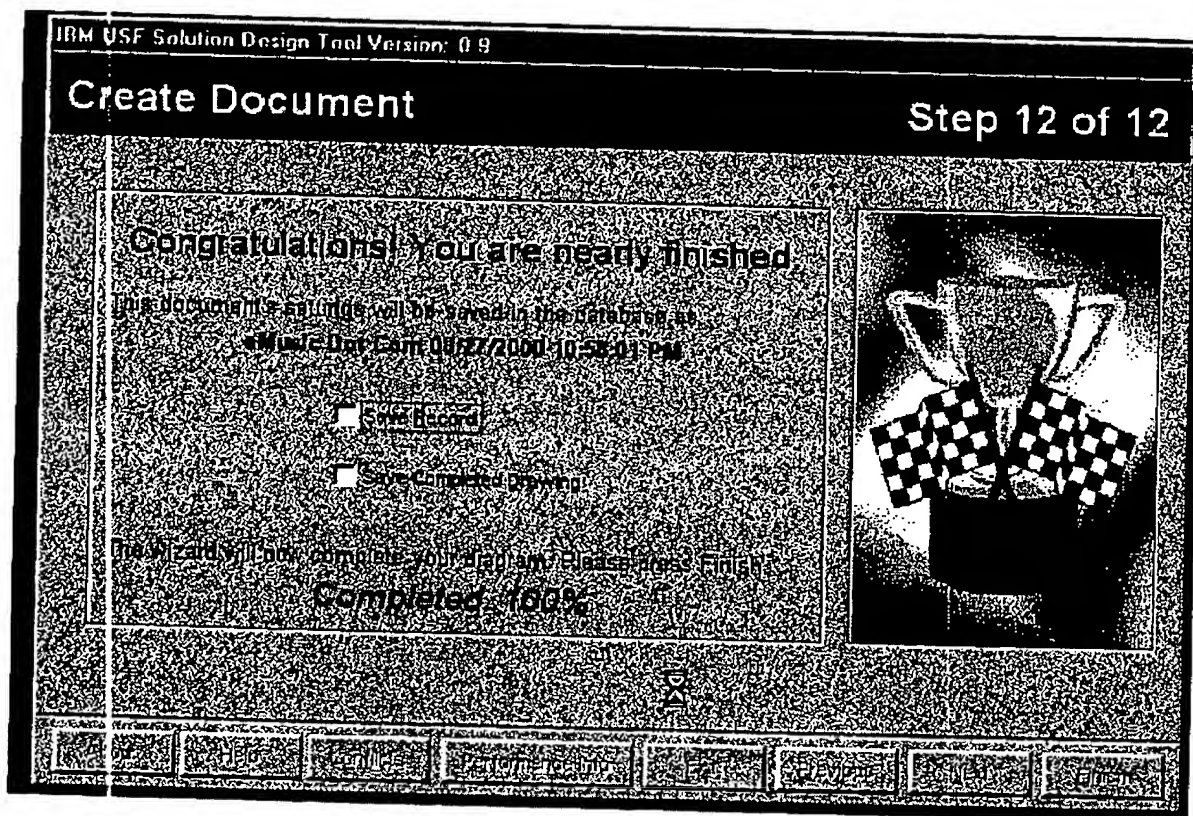
[List of templates]

[Navigation buttons: Back, Forward, etc.]

520

## Figure 5K

Longnecker et al.  
AUS920010641US1  
Universal Server Farm Mass Custom  
Design Tool  
Page 14 of 21



522

Figure 5L

Longnecker et al.  
AUS920010641US1  
Universal Server Farm Mass Custom  
Design Tool  
Page 15 of 21

CONFIDENTIAL


DEST AVAIL ARI F COPY

File Server Solution Design Tool Version 3.3

## Create Document

Step 12 of 12


### Budget and Planning Estimate

 **Budget and Planning Estimate**

The following estimates are for planning purposes only. The actual prices will be prepared upon a design review of this set of requirements and will vary from the estimates shown.

One-Time Fee:	\$ 0.00
Monthly Recurring Fee:	\$ 0.00

( based on a 36-month contract )



CONFIDENTIAL

522

524

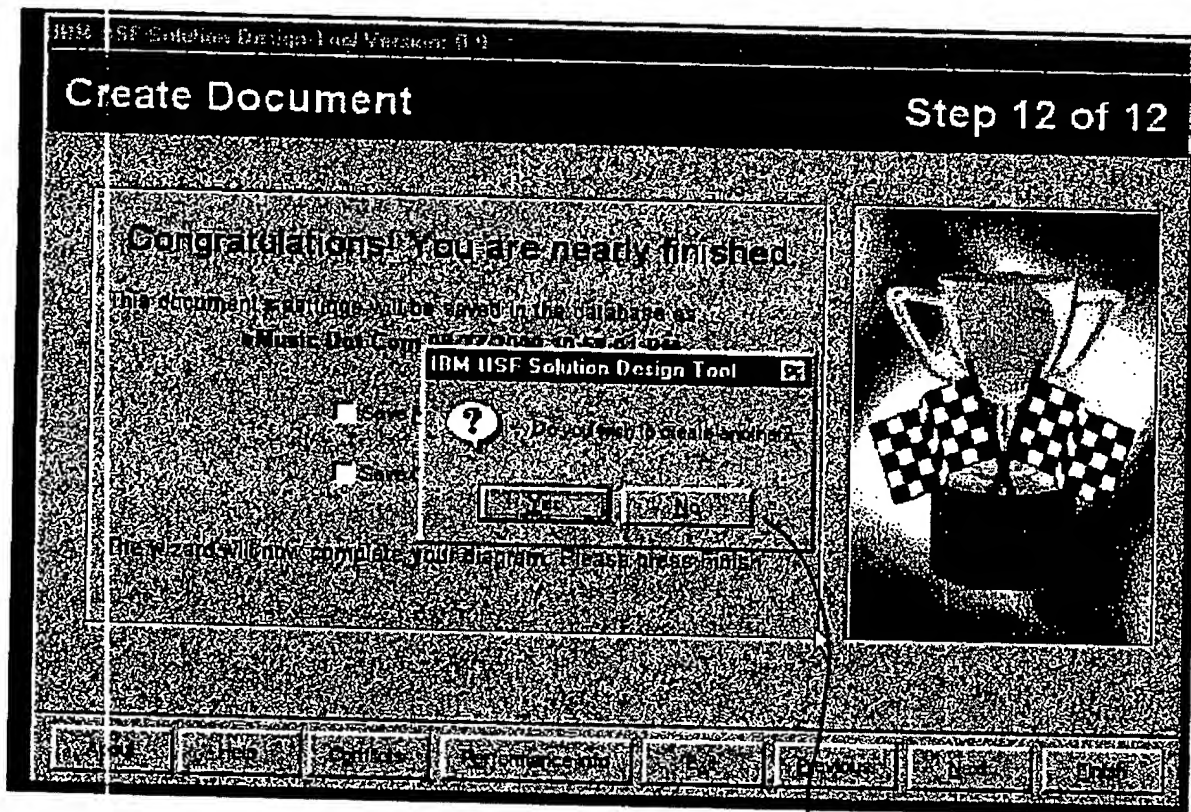
## Figure 5M

Longnecker et al.  
AUS920010841US1  
Universal Server Farm Mass Custom  
Design Tool  
Page 16 of 21



10004949 "120501

RECT AVALI ADI E COPY



522

526

Figure 5N

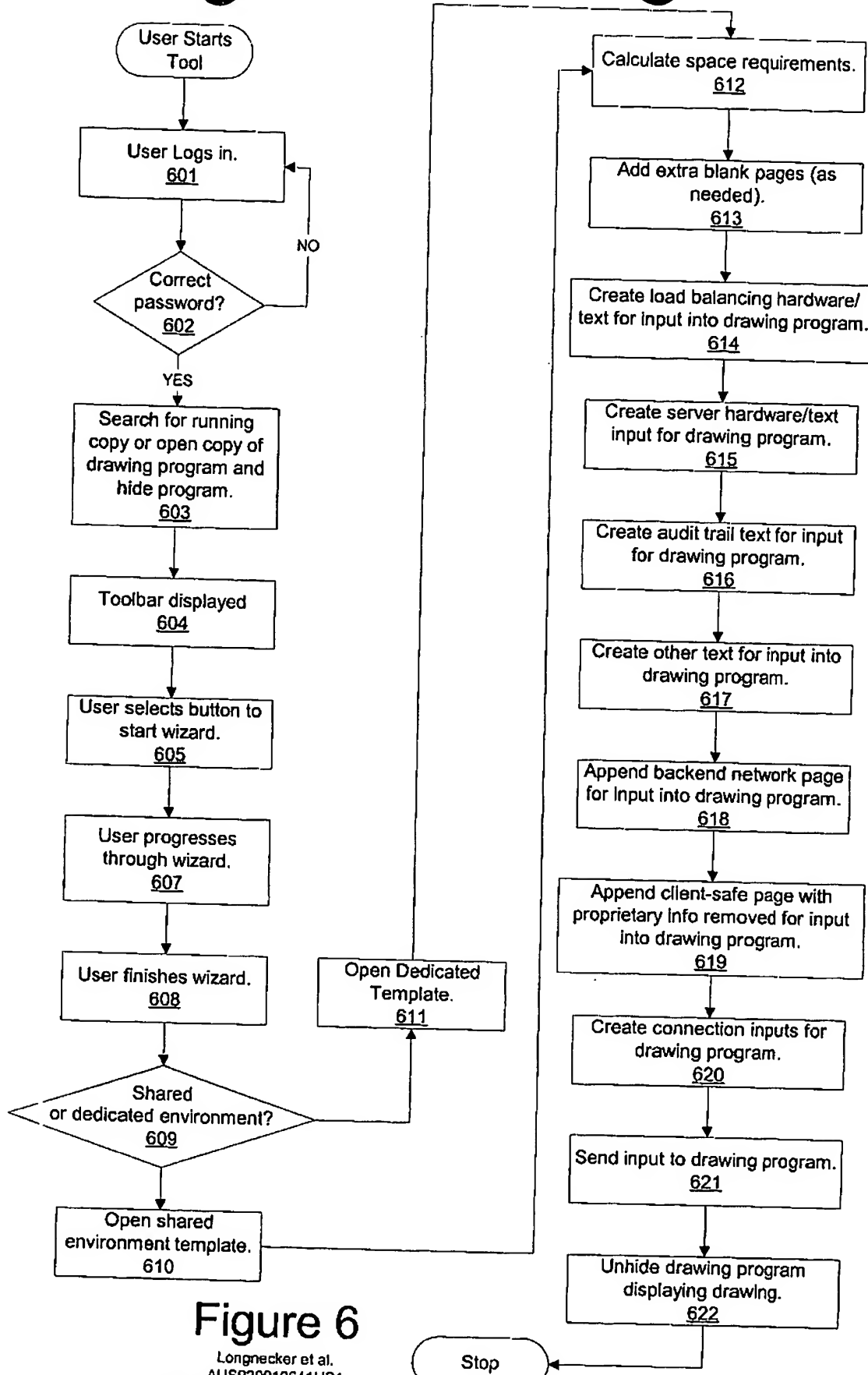


Figure 6

```
WAN Bandwidth      38.7 Gbit/s
  & Internet        38.5 Gbit/s
LAN bandwidth       38.5 Gbit/s
LAN address         10.0.0.1
  & All connections 100BaseT(100 Mbps) except
    for backward compatibility
Firewall            Disabled
  & Layer 1: DEDICATED VRAP
  & Layer 2: DEDICATED VRAP
  & Layer 5: SHARED
```

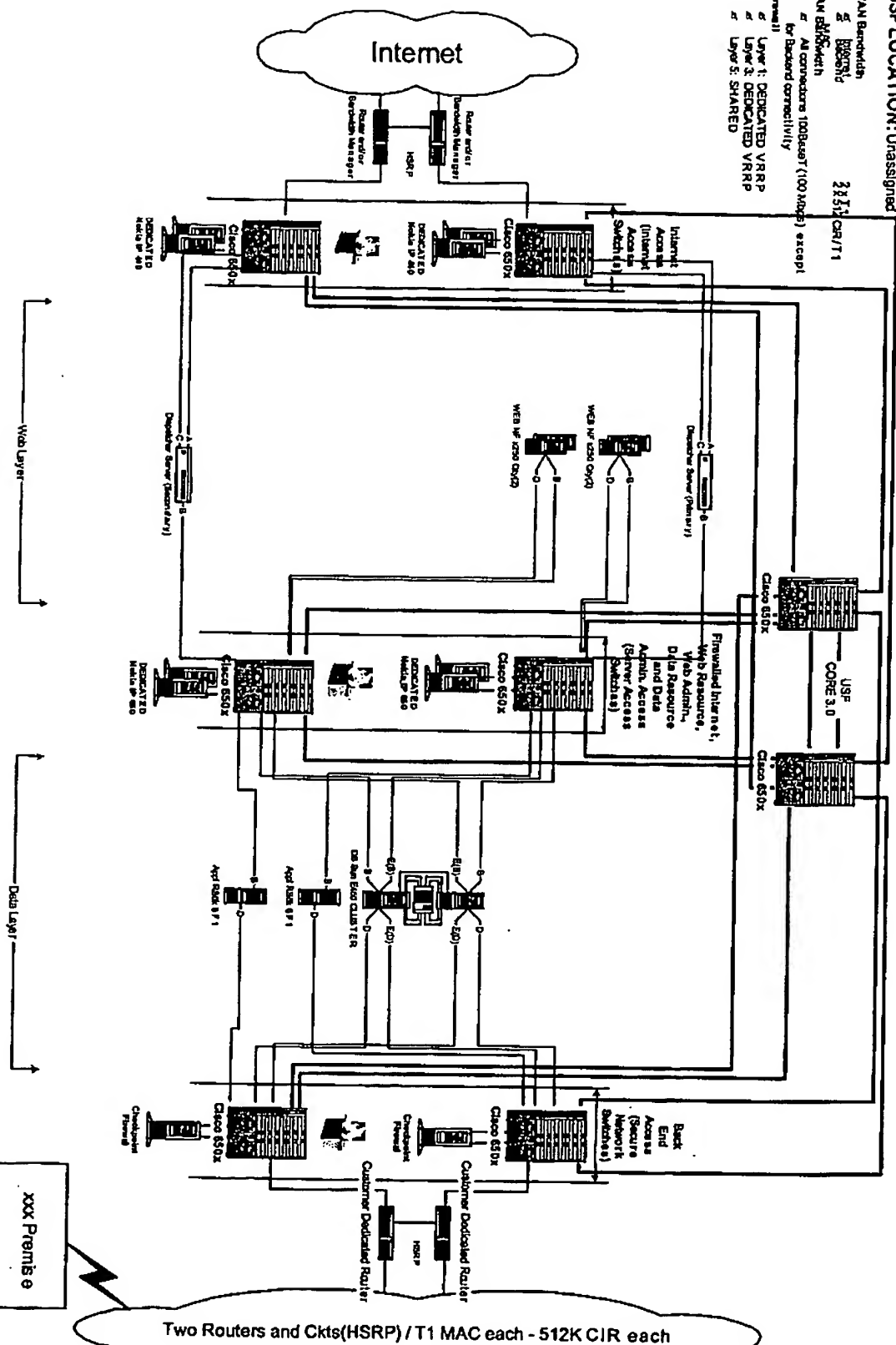


Figure 7  
Longnecker et al.  
AUS920010641US1  
Universal Server Farm Mass Custom Design Tool  
Page 19 of 21

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Dispatch Server (Qty 2)  
key file == NET64050J03

Hardware  
IBM RS6000 43P Model 150  
1x 375kHz 604 PowerPC Processor  
1x 256 MByte main memory (2x 256 MB DIMM)  
2x 9 GB Hard Disk  
1x Base Operating System & BOS Mirror  
1x Base Bay Disk Drive Mounting Kit  
3x 10/100 Mbit Ethernet NIC Adapters  
1x Power Supply Connection

Software  
\*NX Base Operating System (BOS) (current build)  
\*WebSphere Edge Server Software Package  
\*containing SecurityWay Network Dispatcher Program

Network  
A Adapter: (10BaseT) External INTERNET (100)  
B Adapter: (10BaseT) WEB to DB Layer + User Admin (300)  
C Adapter: (10BaseT) Private VLAN (200)

Web Layer Firewall Server (Qty 2)  
key file == FWLH4450.001

Hardware  
\*Node IP40 Base System  
1x Intel Processor  
1x 256 MByte RAM main memory  
1x 20 GB Hard Drive  
3x Four Port 10/100 Ethernet CPCI Interface Card  
1x Ethernet Cable (for crossover)  
1x Power Supply  
1x Power Supply Connection

Software  
\*PSO software (operating system & Checkpoint)  
\*Check Point Firewall-1 Enterprise Security Suite  
- \*Access Control  
- \*Authentication  
- \*Encryption  
- \*Address Translation  
- \*Content Security  
- \*Connection Control  
- \*Enterprise Management

Network Connections  
A Adapter: External INTERNET (100)  
J Adapter: Firewall Logging (18)  
K Adapter: Firewall to Internet Connection (20)  
L Adapter: Firewall to Web E (300)  
M Adapter: Firewall to Data B (300)  
Q Adapter: Firewall Tool Resources (18)

Virtual Routing Redundancy Protocol is used for failover.

Figure 8A  
Longnecker et al.  
AUS920010641US1  
Universal Server Farm Mass  
Custom Design Tool  
Page 30 of 21

**Data Base Server MED CLUSTER (Qty 1)**  
 shown as = Apt R504 6F1  
 key file = ADBSCM80J01

**Hardware**  
 \*Sun E450 Server (Qty 2 of these servers)  
 \*4 x 400 Mhz cpu  
 \*3072 MByte main memory  
 \*2 x 18 GByte Hard Disk  
 \*Base Operating System & BOS mirror  
 \*2 x 35 GByte Hard Disk (Cluster Software Usage)  
 \*ADSM Backup System & mirror  
 \*1 x 12/24 GByte 4mm DDS-3 Internal Tape Drive  
 \*4 x 10/100 Mbps Ethernet NICs using 2 Quad Cards  
 \*2 x Power Supply Connection for E450

**Disk Expansion Unit w/RAID (Qty 2 of these units)**  
 \*4 x 18 GByte Hard Disk (per unit)  
 \*2 x Power Supply Connection for Disk Exp Unit  
 \*Total Hard Disk Storage for client data = 8 x 18 GB  
 \*4 x 18 GByte available with mirroring  
 \*Administrative Workstations Sun Ultra 5 w/mirror  
 \*with Terminal Concentrator Kit for sharing  
 \*1 x Power Supply Connection

**Software**  
 \*Sun Solaris Operating System (BOS) [current build]  
 \*Sun Cluster Software & Documentation  
 \*Sun Veritas File System Software  
 \*Sun Veritas Volume Manager Software  
 \*to be specified  
 \*Other software is customer supplied software

**Network Connections**  
 8 (100BaseT) WEB to DB Layer + USF Admin (300)  
 D (100BaseT) External BACKEND (400)  
 E89 (100BaseT) Failover for Adapter (8) (300)  
 E10 (100BaseT) Failover for Adapter (D) (400)

**Application Server (Qty 2)**  
 shown as = Apt R504 6F1  
 key file = ADBSCM80J01

**Hardware**  
 \*RS5000 6F1 MED APP or MED DB  
 \*2 x 450 Mhz cpu  
 \*4096 MByte main memory  
 \*1 x PCI Dual Channel Ultra2 SCSI Adapter  
 \*2 x 9 GByte Hard Disk  
 \*Base Operating System & BOS mirror  
 \*1 x 4-Channel Ultra3 SCSI PCI RAID Adapter  
 \*8 x 18 GByte Hard Disk (client data)  
 \*4 (3 x 18 GByte available with mirroring)  
 \*4 x 10/100 Mbps Ethernet NIC's  
 \*2 x Power Supply Connection

**Software**  
 \*AUX Base Operating System (BOS) [current build]  
 \*Advanced Edul WebSphere Appl. Server  
 \*Other software is customer supplied software

**Network Connections**  
 8 (100BaseT) WEB to DB Layer + USF Admin (300)  
 D (100BaseT) External BACKEND (400)

Figure 8B  
 Longnecker et al.  
 AUS920010641US1  
 Universal Server Farm Mass  
 Custom Design Tool  
 Page 21 of 21

**Administration Workstation**  
 Hardware  
 \* Sun Ultra Enterprise Ultra 10 Model 440  
 \* 1 x 440MHz UltraSPARC-III  
 \* 256MB DRAM  
 \* 2 x 8.1GB 7200 RPM Hard Disk (EIDE)  
 \* 1 x 17in Monitor  
 Software  
 \* Solaris 2.6  
 Network  
 \* Adapter (Integrated): USF Admin (Data Admin (500))  
 Other Hardware  
 \* 1 x Terminal Concentrator Kit  
 Full Over Scheme:  
 \* Server 1 Disk over to server #2

**EXP200 Notes:**  
 You may need to include the following parts in your EXP200 configuration:  
 \* 03K0311 IBM Netfinity 42M Ultra2 SCSI Cable  
 \* 37L5957 Netray EXP200 Rack-to-Tower Conversion Kit  
 \* 37L0075 Netray EXP200 350W Redundant Power Supply